

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (previously presented): A method for an acyltransferase reaction in which an acyl group of acyl coenzyme A (acyl CoA) is transferred to an acyl group receptor to yield a desired product via a macromolecular polymerization reaction, said method comprises carrying out a combination of (i) the acyltransferase reaction by production and/or reproduction of an acyl coenzyme A from a coenzyme A in a reaction system by a chemical thioester exchange reaction with an acyl group donor which is an acyl ester of a thiol compound, and (ii) a macromolecular polymerization reaction,

wherein the acyl group donor, the acyl group receptor, the coenzyme A and an acyltransferase are contained in the reaction system at the same time, an acyl group of the acyl group donor is transferred to coenzyme A by the chemical thioester exchange reaction to give an acyl coenzyme A and an acyl group of the acyl coenzyme A is transferred to the acyl group receptor,

wherein the acyl group receptor is selected from the group consisting of hydroxyl alkanoate CoA (HA-CoA) and poly(hydroxyl alkanoate) (PHA-CoA), and

wherein the acyltransferase is polyhydroxy alkanoate synthase.

2. (canceled).

3. (previously presented): The method for acyltransferase reaction according to claim 1, wherein the method is carried out together with production and/or reproduction of acyl coenzyme A by an acyl group of the acyl group donor.

4. (previously presented): The method for acyltransferase reaction according to claim 1, wherein the thiol compound is aromatic thiol.

5. (original): The method for acyltransferase reaction according to claim 4, wherein the aromatic thiol is thiophenol which may optionally contain a substituent group(s).

6.-11. (canceled).

12. (previously presented): The method for acyltransferase reaction according to claim 1, wherein an acyltransferase reaction is repeated using acyl coenzyme A or a product by the acyltransferase reaction as an acyl group receptor whereby a macromolecular compound is produced.

13. (previously presented): The method for acyltransferase reaction according to claim 1, wherein the acyl ester of a thiol compound is acyl ester of aromatic thiol.

14. (original): The method for acyltransferase reaction according to claim 13, wherein the acyl ester of aromatic thiol is hydroxyalkanoate thiophenyl ester.

15. (original): The method for acyltransferase reaction according to claim 14, wherein the hydroxyalkanoate thiophenyl ester is 3-hydroxyalkanoate thiophenyl ester.

16. (original): The method for acyltransferase reaction according to claim 15, wherein the 3-hydroxyalkanoate thiophenyl ester is 3-hydroxybutyrate thiophenyl ester.

17.-27. (canceled).